



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,798	09/24/2003	Roy R. Stoecker	1252-2	5429

28249 7590 10/11/2005
DILWORTH & BARRESE, LLP
333 EARLE OVINGTON BLVD.
UNIONDALE, NY 11553

EXAMINER

MAYO, TARA L

ART UNIT PAPER NUMBER

3671

DATE MAILED: 10/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Ne

Office Action Summary

Application No.

10/669,798

Applicant(s)

STOECKER ET AL.

Examiner

Tara L. Mayo

Art Unit

3671

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 19 August 2005 has been entered.

Claim Rejections - 35 USC § 112

2. The prior rejection of claims 1 through 28 under 35 USC §112, second paragraph have been overcome by the amended claims filed 19 July 2005.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

Art Unit: 3671

the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1 through 12 and 14 through 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rider (U.S. Patent No. 6,422,318 B1) in view of Cherrington (U.S. Patent No. 4,319,648).

Rider '318, as seen in Figures 1 and 3, disclose a method for providing cooling water to a facility (col. 9, lines 6 through 10) comprising the steps of:

with regard to claim 1,

extending at least one pipe (16, 18, 20) beneath a soil layer (34); and

delivering ground water from under the bottom of the soil layer through said at least one pipe to the facility;

with regard to claim 2,

filtering the ground water through a sand substrate (12) beneath the soil layer before deliverance thereof to the facility;

with regard to claim 3,

forming at least one elongated tunnel (col. 6, line 66 through col. 7, line 12) beneath the soil layer; and

extending a first pipe (18) within the at least one elongated tunnel;

with regard to claim 4,

Art Unit: 3671

wherein the step of forming the tunnel includes horizontal directional drilling (col. 6, line 66); and

the method further comprising the step of placing at least one second pipe (16) into the at least one elongated tunnel;

with regard to claim 5,

wherein the first and at least one second pipe extend substantially horizontally;

with regard to claim 6,

wherein the distal ends of the first and at least one second pipe extend transversely to the bottom;

with regard to claim 7,

further comprising the step of providing the distal end of the first and at least one second pipe with a screening assembly configured to filter solid particles from the groundwater to avoid pipeline sediment incursion (col. 3, lines 40 through 44);

with regard to claim 8,

wherein the delivery of groundwater from beneath the soil layer includes providing a pump station (58) at the surface of the soil layer;

with regard to claim 10,

wherein the first and at least one second pipe are dimensioned uniformly;

with regard to claim 12,

wherein the first pipe has a proximal end and a distal end, which extends beneath the soil layer, the method further comprising the step of extending the proximal end of the first pipe beneath the soil layer.

Art Unit: 3671

Rider '318 further discloses a cooling water intake system configured to deliver groundwater from an aquifer beneath a soil layer (34) comprising:

with regard to claim 14,

a sand substrate (12);

at least one tunnel (214); and

at least one elongated pipe (18);

with regard to claim 15,

a second pipe (18) substantially uniformly sized with the first pipe; and

a pump assembly (58);

with regard to claim 16,

wherein the distal ends of the first and second pipes extend transversely to the bottom of the soil layer and have a filter assembly (col. 3, lines 40 through 44);

with regard to claim 17,

wherein the distal ends of the first and second pipes are perforated and covered by a screening assembly being woven wire screencloths (col. 7, lines 29 through 47); and

with regard to claim 18,

wherein the distal end includes elongated slots that are linear (col. 7, lines 33 through 36).

Rider '318 discloses all of the features of the claimed invention with the exception(s) of:
with regard to claim 1,

the facility having equipment requiring cooling for proper functioning; and

Art Unit: 3671

the groundwater delivered to the facility for cooling of the equipment;
claims 1 and 14,

the soil layer containing a water reservoir having a bottom;
with regard to claims 2 and 14,

the sand substrate being of the bottom of the water reservoir; and
the water reservoir being a water body selected from the group consisting of an ocean,
sea, river and lake;

with regard to claims 3 and 14,

forming the tunnel under the bottom of the water reservoir; and
the first pipe terminating at a distance from a shore of the water reservoir;

with regard to claims 8 and 20,

providing the pump station on a shore or bank of the water reservoir or on the bottom
thereof;

with regard to claims 9, 21, 27 and 28,

discharging the delivered water from the facility into the water reservoir a temperatures
minimizing plumes, the industrial facility being selected from the group consisting of power
plants, nuclear plants, and desalination plants;

with regard to claims 11 and 23,

the first and at least one second pipe being dimensioned non-uniformly, the method
further comprising the arranging the non-uniformly dimensioned first and second pipes in a
succession of pipe groups, wherein each successive pipe group has pipes of a uniform length,

Art Unit: 3671

which is greater than a uniform length of pipes constituting a previous one of the succession of pipe groups;

with regard to claim 19,

the filtering assembly including a screen covering the first and second pipes;

with regard to claim 20,

the pump assembly being selected from the group consisting of a turbine pump, a suction lift self-priming centrifugal pump, high head submersible pump and a combination thereof;

with regard to claim 22,

the perforations being non-uniformly dimensioned;

with regard to claim 24,

the screening assembly having a screen size of about 0.02 inch (0.5 mm);

with regard to claim 25,

the equipment being in an onshore facility; and

with regard to claim 26,

the onshore facility being selected from the group consisting of a power plant, a nuclear plant, and a desalination plant.

Cherrington '648, as seen in Figure 1, discloses a method for horizontal directional drilling beneath a soil layer including a water reservoir (10), such as a river (col. 1, lines 61 through 64), wherein a first pipe extends beneath the water reservoir in a tunnel and terminates at a distance from a shore of the water reservoir.

Art Unit: 3671

With regard to claim 1, Rider '318 broadly teaches a facility (col. 9, lines 6 through 10) but fails to teach the facility including equipment requiring cooling for proper functioning. However, facilities include "equipment" and it would have been obvious to one having ordinary skill in the art at the time of invention to modify the method disclosed by Rider '318 such that the groundwater delivered to the facility would be used to cool the equipment. The motivation would have been to provide the equipment with coolant from an economical source.

With regard to claims 1, 2, 3, 8, 14 and 20, it would have been obvious to one having ordinary skill in the art of water resources engineering at the time of invention to modify the method disclosed by Rider '318 such that it would performed beneath the bottom of a water reservoir as suggested by Cherrington '648. The motivation would have been to access an aquifer beneath a body of water.

With regard to claims 9, 21, and 28, Applicants recitation of discharging the cooling water at temperatures minimizing thermal plumes is met by the method disclosed by Rider '318. Specifically, because the aquifer shown by Rider '318 is in a lower soil strata immediately adjacent bedrock, it is too deep to experience season thermal variations and will remain at a nearly constant temperature annually, thus experiencing a slight temperature during use and capable of being discharged at a temperature minimizing thermal plumes.

With regard to claims 11 and 23, it would have been obvious to one having ordinary skill in the art at the time invention of invention to modify the method disclosed by the combination of Rider '318 and Cherrington '648 such that it would further include the step of arranging a plurality of pipes having non-uniform lengths into successive groups since such a modification would have involved a mere duplication of the essential working parts of the invention and a

Art Unit: 3671

mere change in size of the same, both of which are recognized as involving only routine skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955). *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

With regard to claim 19, it would have been obvious to one having ordinary skill in the art of water resources engineering at the time the invention was made to modify the device disclosed by the combination of Rider '318 and Cherrington '648 such that the filtering assembly would further include a screen covering the first and second pipes since it is a well known expedient in the art to use screens for filtration.

With regard to claim 20, it would have been obvious to one having ordinary skill in the art of water resources engineering at the time the invention was made to make the pump assembly of the device shown by the combination of Rider '318 and Cherrington '648 a turbine pump. The motivation would have been to use an efficient pump capable of producing a high discharge pressure.

With regard to claim 22, it would have been obvious to one having ordinary skill in the art of water resources engineering at the time the invention was made to make the perforations of the device shown by the combination of Rider '318 and Cherrington '648 non-uniform. The motivation would have been to vary the intake velocity of the groundwater into the pipe along the length of the pipe.

With regard to claim 24, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the screen size of the screen assembly shown by the combination of Rider '318 and Cherrington '648 0.02 inch, since it has been held that where

Art Unit: 3671

the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

With regard to claim 25, it would have been obvious to one having ordinary skill in the art at the time the invention was made to locate the equipment in an onshore facility since the same is a well-known expedient.

With regard to claim 26, in view of the broad teaching by Rider '318 of a "treatment facility" (col. 9, line 9), it would have been obvious to one having ordinary skill in the art of water resources engineering at the time of invention to modify the method disclosed by Rider '318 such that the water would be used at a desalination plant since the same is a type of treatment facility.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rider (U.S. Patent No. 6,422,318 B1).

Rider '318, as seen in Figures 1 and 3, shows a cooling water intake system (10) comprising a delivery assembly configured to deliver groundwater from under a bottom of a water reservoir to a facility.

Art Unit: 3671

Rider '318 fails to teach the delivery assembly being positioned under a bottom of a water reservoir.

With regard to claim 13, it would have been well within the level of ordinary skill in the art at the time the invention was made to modify the device shown by Rider '318 such that it would be modified and positioned under a bottom of a water reservoir. The motivation would have been to access groundwater from beneath a water reservoir.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tara L. Mayo whose telephone number is 571-272-6992. The examiner can normally be reached on Monday through Friday 8:30 AM to 5:00 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will can be reached on 571-272-6998. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 10/669,798

Page 12

Art Unit: 3671

flm

03 October 2005

TARA L. MAYO
PATENT EXAMINER